In the claims:

Please amend the claims to read as follows:

1. (Currently Amended) A device for application to a body part of a patient to detect a change in the physiological condition of the patient comprising: a housing for receiving the body part; pressurizing means for applying a pressure field around the body part when received in said housing; and a sensor for sensing changes in said body part related to changes in blood volume therein; characterized in that:

said housing includes at least three contiguous but separate sections each having a separate fluid chamber, said three housing sections including a distal end section at its distal tip, a proximal end section at its opposite end, and at least one middle section between said end sections;

said pressurizing means applies a pressure field to the fluid chambers for portions of the body part received within at least said distal end section and said middle section of the housing;

~~and~~ said sensor being located within said middle section of the housing to senses changes in the body part received within said middle section of the housing.

2. (Currently Amended) The device according to Claim 1, wherein said pressurizing means also applies a pressure field to the fluid chamber for said proximal end section.

3. (Original) The device according to Claim 2, wherein said pressurizing means comprises: deformable membrane means within said housing defining end fluid chambers with said end housing sections, and a middle fluid chamber with said middle housing section; and a fluid pressure source for applying a fluid pressure to all of said chambers.

4. (Original) The device according to Claim 3, wherein said deformable membrane means is 0of resilient elastomeric material.

5. (Original) The device according to Claim 3, wherein said housing middle section is longer than said housing end sections.

6. (Currently Amended) The device according to Claim 3, wherein said housing is configured to receive a digit of the patient; said distal end section is closed and encloses a fluid chamber~~,~~ for receiving the distal end of the patient's digit; and said proximal end section is open and encloses an additional fluid chamber at the opposite end of the housing and connected thereto by said middle section.

7. (Original) The device according to Claim 6, wherein said sensor also senses changes in the distal end of the patient's digit received in said closed distal end of the housing.

8. (Original) The device according to Claim 6, wherein said housing is constituted of at least three contiguous parts secured together, including:

a thimble-shaped cap at the closed distal end of the housing;

an annular collar at the open proximal end of the housing; and

an intermediate sleeve secured between the thimble-shaped cap and the annular collar.

9. (Original) The device according to Claim 8, wherein said parts of the housing are secured together by a first annular ring which secures said thimble-shaped cap to said intermediate sleeve, and a second annular ring which secures said intermediate sleeve to said annular collar.

10. (Original) The device according to Claim 9, wherein said first annular ring mounts a U-shaped bar pressing said membrane means against the inner surface of said thimble-shaped cap to divide the chamber therein into two sub-chambers to be located on opposite sides of the distal tip of a patient's digit when inserted into said housing, and to more firmly retain the patient's digit therein.

11. (Original) The device according to Claim 9, wherein said membrane means includes at least three separate membranes, comprising:

a distal membrane having an open end secured by said first annular ring to said thimble-shaped cap to define one end chamber in said cap;

an annular intermediate membrane having open opposite ends secured to said intermediate sleeve by said first and second annular rings to define said middle chamber in the intermediate sleeve;

and a further annular membrane having one end secured to said annular collar by said second annular ring, and the opposite end secured to said annular collar by a third annular ring to define the other end chamber within said annular collar.

12. (Original) The device according to Claim 6, wherein said membrane means is constituted of a single membrane of tubular shape closed at one end and open at the other end; said device further including a plurality of spaced internal annular rings for clamping spaced annular portions of said membrane to the inner surface of said housing to define said fluid chambers in said housing sections.

13. (Original) The device according to Claim 12, wherein the inner surface of said tubular housing, and the outer surfaces of said internal rings, are formed with mating rib and recess formations enabling the internal rings to be snap-fitted within said housing, and to press annular portions of the tubular membrane against the inner surface of the housing to define said chambers.

14. (Original) The device according to Claim 13, wherein said mating rib and recess formations are constituted of annular ribs formed on the inner surface of said housing, and annular recesses formed on the outer surfaces of said internal annular rings.

15. (Original) The device according to Claim 12, wherein said housing is constituted of one part of tubular shape closed at said distal end and open at its proximal end.

16. (Original) The device according to Claim 6, wherein said closed distal end of the housing, and the end fluid chamber therein, are of substantially shorter length than the other housing sections and the fluid chambers therein.

17. (Original) The device according to Claim 6, wherein said end fluid chamber in the closed distal end section of the housing includes an abutment element engageable with the distal tip of the patient's digit.

18. (Original) The device according to Claim 17, wherein said abutment element is located such that, when engaged by the distal tip of the patient's digit, most of said end fluid chamber is located forwardly of the distal tip of the patient's finger.

19. (Original) The device according to Claim 6, wherein said end chamber in the closed distal end section of the housing is fluidly coupled to the fluid chamber in the open proximal end section of the housing.

20. (Original) The device according to Claim 6, wherein said distal end section of the housing is an open cylinder and is closed by the end fluid chamber therein mounted within and closing one end of the cylinder.

21. (Original) The device according to Claim 20, wherein said end fluid chamber closing the open end of the cylinder includes a rigid element mounted within one end of the cylinder and enclosed by the membrane defining said end fluid chamber.

22. (Original) The device according to Claim 21, wherein said rigid element is formed with holes therethrough permitting the free flow of fluid within said end chamber with respect to both sides of the rigid element.

23. (Original) The device according to Claim 22, wherein said rigid element is formed with a concave surface for receiving the distal tip of the patient's finger.

24. (Original) The device according to Claim 20, wherein said end fluid chamber closing the end of said open cylinder is a fluid filled elastic bag open to the atmosphere at its front to provide relatively constant pressure over a wide range of volume changes in accordance with the Laplace effect.

25. (Original) The device according to Claim 1, wherein said pressurizing means applies a static pressure field of sufficient magnitude such that the heartward-

most compartment of said pressure field acts as a venous tourniquet to prevent venous pooling, and retrograde venous blood flow or shockwave propagation into the more distal end of the body part.

26. (Original) The device according to Claim 1, wherein said proximal end section includes a sponge cushion.

27. (Original) The device according to Claim 1, wherein said sensor is in said middle section of the housing, and there is another sensor in said proximal end section of the housing.

28. (Original) The device according to Claim 27, wherein said middle section sensor is an optical sensor at the underside of said middle section, and said another sensor is an optical sensor at the upper side of the proximal end section.

29. (Original) The device according to Claim 1, wherein said housing sections further include air vents between said sections venting the interior of the housing to the atmosphere.

30. (Original) The device according to Claim 1, wherein said housing sections are of a total length to cover two phalanges of a patient's finger.

31. (Original) The device according to Claim 1, wherein said housing sections are of a total length of approximately 50 mm.

32. (Original) A device for application to a body part of a patient to detect a change in the physiological condition of the patient, comprising:

a housing for receiving the patient's body part, said housing including at least a distal end section at the distal end with respect to the patient's heart, and a proximal end section at the proximal end with respect to the patient's heart;

said distal end section including pressurizing means for applying a pressure field around the body part when received in said housing, and a sensor for sensing changes in said body part related to changes in blood volume therein;

said proximal end section including a sponge cushion.

33. (Original) The device according to Claim 32, wherein said housing also includes a middle section between said end sections, said pressurizing means applying a pressure field around the body part when received in said housing.

34. (Original) The device according to Claim 32, wherein said housing consists only of said distal end section and said proximal end section.